[PROC. ROY. SOC. VICTORIA, 22 (N.S.), PT. I., 1909]

ART. III.—*Description of Two Terrestrial Species of Talitridae from Victoria.*

BY O. A. SAYCE.

(With Plates XI., XII.)

[Read 13th May, 1909.]

The only terrestrial Amphipod so far recorded as occurring in Australia and Tasmania is *Talitrus sylvaticus*, Haswell. I have received specimens from New South Wales, Tasmania, and many parts of Victoria, ranging from the seaboard to the tops of our highest mountains, and they all agree closely with one another morphologically. The original description is somewhat meagre in the light of what is now known of the genus, so that I have in this treatise more fully described it.

Another well-defined species referable to the same genus is to be met with commonly throughout the forest lands of Victoria, outside of which it has not so far been found. I herewith give a description of it.

The characters of each of these species are mostly in close agreement with other members of the genus *Talitrus*, the most important variation being in the shape of the palp of the maxillipeds, which possesses a rudimentary but definite fourth joint, clearly marked off from the preceding one by a line of articulation in *T. sylvaticus*, whereas in *T. kershawi* it is coalescent, but of the same conical shape and tipped with a single long spinule. Another character of difference worthy of note is that the carpal joint of the first gnathopod is somewhat expanded, whereas typically it is elongated and linear in form.

Talitrus sylvaticus, Haswell.

(Plate XI.)

T. sylvaticus, Haswell, Proc. Linn. Soc. N.S.W., vol. iv., p. 245, pl. vii., fig. 1.
T. assimilis, Haswell. Proc. Linn. Soc. N.S.W., vol. v., p. 97, pl. 5, fig. 1.
T. assimilis and T. affinis, Haswell. Proc. Linn. Soc. N.S.W., vol. x., p. 95, pl. x., fig. 1.
T. sylvaticus, G. M. Thomson. Proc. Roy. Soc. Tas. 1892, p. 15, figs. 1-10.
T. sylvaticus, Sayce. Proc. Roy. Soc. Vict., xiii. (n.s.), pl. ii., p. 225.

Body smooth and rather slender, cephalon as long as the first and half of the second segment of mesosome combined. First pair of side-plates distinctly narrowing distally. Third pair of epimeral plates of metasome with margin below slightly and evenly curved, antero-lateral corners evenly rounded, postero-lateral corners right-angled and margin above minutely crenulated. Branchiae vesicular, large, remarkably so on the second gnathopoda and fourth pereiopoda, the latter bilobed proximally. Incubatory lamellae very small, lanceolate, with a few setae at the distal extremity.

Upper antennae, extending to the middle of the last peduncular joint of the lower pair; the flagellum of subequal length to the peduncle.

Lower antennae, varying in length considerably in specimens from different localities; usually long and slender, last joint of peduncle almost twice as long as the preceding one, no perceptible sexual difference.

Upper lip large and prominent, broadly rounded distally.

Mandibles, without any trace of palp; that of right-hand side with the cutting edge containing four teeth, and the secondary plate bidentate; that of the left-hand side with the cutting edge of six teeth, and the secondary plate with a single series of four teeth. In each the molar tubercle is very large, and set with numerous rows of stout denticles; the spine-row has about four plumose setæ, and near their base is a tuft of fine cilia.

Lower lip, membranous, lobes wide, and broadly rounded distally.

First maxillae.—Inner plate narrow, extending nearly to the end of the outer plate, and tipped with two plumose spinules; outer-plate broad, and bearing apically a double series of nine denticulated spines. Palp formed of one well-defined minute joint, tipped with the vestige of a second one.

Second maxillae.—Inner and outer plates broad and almost of similar length to each other; each fringed distally with simple spinules, besides which the inner plate bears a long, stout, feathered spine at the distal extremity of the inner margin.

Maxillipeds.—Outer masticatory plates small, each broad proximally, but rapidly narrowing to a bluntly pointed apex directed obliquely inwards, and bearing, submarginally, a single transverse row of short stiff setæ. Inner plates of usual form, each bearing at the extremity two large teeth, and one small one, also a few plumose setæ. Palp of four joints, the ultimate one being minute, and of conical shape, tipped with a long spinule. It is usual for the members of this genus to have but three joints in the palp, the fourth wanting or entirely coalescent with the third, but in this species it is clearly marked off by a distinct line of division from the previous one.

Gnathopoda.—First pair with carpus expanded distally, and fully twice as long as its greatest breadth; propodus shorter in length, and gradually narrowing to the dactylus. The second pair agreeing in both sexes, of similar form to others of the same genus, and without any specific characteristic.

Pereiopoda.—The first and second pairs similar to each other and much longer than the gnathopoda. Third of equal length to the preceding ones; the fourth and fifth subequal in length to each other, much longer than the preceding ones. Basos of last pair widely expanded behind, with margin minutely serrated.

Pleopoda.—Only first and second pairs existing, and, as in other terrestrial amphipoda, these are more or less atrophied from disuse. Relative to the following species they are well developed—First pair very short with two well-developed rami, the outer one (exopod) a little longer than the inner one (endopod), which is of equal length to the peduncle, and each is fringed with long feathered setæ. Second pair considerably shorter than the first, but of similar form and clothing. No vestige of a third pair is to be found.

Uropoda.—In the first and second pairs the peduncle extends at least as far as the end of the telson, the third pair, two jointed, minute, and of normal form.

Telson.—Broad at the base, and curving to a narrowly truncated tip, margin entire, and the surface bearing a few little setæ.

Sexes.—No apparent sexual difference.

Colour when alive variable, usually dark brown, but sometimes reddish-brown, and occasionally pale yellow.

Length.—The largest specimen measured from front of head to telson, 12 mm., but in most of the gatherings they measured about 8 mm.

Occurrence.—Very common throughout Victoria at all elevations, under logs and dead leaves in forest and scrub lands, preferably in damp situations, but also frequently in dry places, and often in association with the following species. I have also found them just above the tide-level at several places on our coast, under dead seaweed, lying on sand.

Distribution.—Very common in Tasmania, and relatively in fewer numbers along the coastal and mountainous regions of New South Wales.

Talitrus kershawi, n. sp.

(Plate XII.)

Body rather stouter and usually of a larger size than the preceding species. Cephalon scarcely longer than the first segment of the mesosome. First pair of side-plates subquadrate, quite as wide distally as proximally, antero-distal corner abruptly rounded, postero-distal corner broadly rounded, and margin between almost straight. Third pair of epimeral plates of metasome with antero-lateral corner produced downwards to a conspicuous triangular projection, the posterior corner being right-angled, and hind margin minutely crenulated.

Antennae agreeing essentially with the previous species in relative length and form.

Buccal area.—The anterior and posterior lips, and first and second maxillae, agree precisely with the former species, the mandibles only differ slightly in the teeth of the cutting edges. The maxillipeds have the ultimate joint (dactylus) of the palp coalescent with the penultimate one (propodus), and terminates in a minute conical piece (the remnant of the dactylus), possessing one or two spinules, and at the apex a long single spinule. Except for this difference the palp agrees closely with *T. sylvaticus.* The inner masticatory plate quite agrees with that species, and the outer plate also agrees in form, except that the apex is rather broader, distinctly indented, and clothed with two tufts of setæ, separated by the indentation.

Gnathopoda.—The first pair has the carpus widely expanded distally, being fully three-quarters as wide as its length, and is minutely but distinctly lobed. The second pair is without any special characteristic, and quite normal to the genus. Like the previous species, there are very large branchiae attached.

Pereiopoda.—These are rather more spinulose than *T. sylvaticus*, and possess rather smaller branchiae. The incubatory lamellae are similar, and in all other respects are in close agreement.

Pleopoda.—These are quite rudimentary, much more so than in the preceding species. The first pair has a stout peduncle, with a single minute outer ramus articulated to the stem subapically. Beyond the articulation of this ramus the peduncle is produced a little at the apex, evidently the vestige of the inner ramus, but it is quite coalescent with the stem. The second pair exist only as a minute cylindrical process, being but a vestige of a former peduncle. Each pair possess a few little setules, but no feathered setæ.

Uropoda.—These agree in form and armature with the preceding species, but are relatively rather shorter and stouter.

Telson.—Quite similar to the preceding species.

Sexes.—There is no apparent sexual differentiation.

Colour.—Varying from reddish-brown to black, and sometimes pale yellow.

Length.—The largest measured 15 mm. in length, but are usually about 11 mm.

Occurrence.—I have gatherings from a considerable number of localities throughout Victoria. They are often associated with *T. sylvaticus*, and rather more numerous than that species.

Distribution.—Out of Victoria it does not appear to have been observed.

Remarks.—The specific name is given in compliment to Mr. J. A. Kershaw, curator of the National Museum.

It may easily be distinguished from *T. sylvaticus* by the conspicuous triangular downward projection of the epimeral plate of the third segment of the metasome (noticeable in the smallest specimens), and also by the rectangular form of the first coxal-plate, which in *T. sylvaticus* is distinctly narrower distally than proximally.

EXPLANATION OF PLATES.

Plate XI.

Talitrus sylvaticus, Haswell.

Plate XII.

Talitrus kershawi, n. sp.

The following lettering is used in each of the plates to designate the corresponding parts:—m^1. first maxillae; m^2. second maxillae; *mp.* maxillipeds; Gn^1. and Gn^2. first and second pair of gnathopods; Pr^4. fourth pair of peraeopods; Pl^1., Pl^2. first and second pair of pleopods; *T*, telson.